Appendix E
USING TSP ON THE APPLE MACINTOSH

Installation of TSP on your Mac is described in a memo accompanying the program diskettes. This appendix assumes that TSP has been successfully installed on your hard disk. As a reminder, note that the following equipment is required in order to run TSP:

- System 6 or 7
- 2.5MB RAM (or more)
- hard disk (with at least 1.2Mb free)
- 1.44M or 800K 3.5" floppy disk drive (to read the master diskettes)
- 68020, 68030, or 68040 CPU (Mac II, SE/30, or Quadra), or PowerMac
- 68881 or 68882 math coprocessor/FPU or emulator

(Mac II or SE/30; not required for Quadra or PowerMac)

Macs with the 68LC040 CPU chip (such as Centris 610) do not have an FPU and usually cannot run the SoftwareFPU emulator; Mac TSP does not run on these Macs (sorry).

With the following exceptions, this is the same program as the TSP that runs on DOS/Win, VAX/VMS, unix, etc.. The Mac-specific features are:

- default memory sizing via the Get Info resource
- initial dialog box/file list to choose batch input file or interactive mode
- adjustable-sized output and Plot/Graph windows
- dialog boxes when printing graphics, to choose Portrait/Landscape mode interactively
- double-clicking on output file to invoke your editor (the same text editor that created the input file).

E.1. Running TSP in Interactive mode

Move into the TSP folder by double-clicking on it, and double click on the TSP icon to start TSP.

First, the screen clears and TSP 4.4 appears in the title bar of a scrollable output window. If you do not have enough memory (2Mb plus .5Mb for System 6 or 4Mb for System 7/8, or more for other programs under Multifinder/System 7), you will get an error message at this point. It will take about 6 seconds or so to load the program from disk into memory.

Second, a short copyright message for the Fortran compiler will appear, and a prompt will be given below:

```
Select batch input file [or hit Cancel for interactive]:
```

followed by a list of text files in your folder which can be selected for batch operation. Click on the Cancel box to run TSP interactively (or see below for batch operation). Finally, the TSP version and address will be displayed, and you will be prompted for TSP commands:

```
1 ?
```

The text is in 9 point Monaco (a non-proportional font). There is a blinking cursor bar indicating where your commands are typed. An I-beam (text) cursor is also initially displayed. You can type commands at this time, and output will appear in the same window. Press RETURN to end a command (the ; is not required), or use \ and RETURN to continue a command onto further lines. Some simple commands to try out are HELP and SHOW, if you are running TSP for the first time. The END or QUIT command terminates TSP. Your commands during the interactive session are saved in a BKUP.TSP file, unless you exit with the QUIT command. This file can be renamed, edited and used to run TSP in batch mode.

You can select text in the output window and print it or paste it into files. You can also scroll the output window up and down to look at previous results from different commands. If you move the cursor around to do these things, you can hold down the Option (alt) key and press RETURN to return the cursor to the insertion point for typing more commands. Otherwise you will just get beeps when you try to type. You can also move the cursor there manually with the mouse - the insertion point is one space right of the lowest question mark.

E.2. Running TSP in Batch Mode

Follow the steps above, but select a text file containing TSP commands from the list of files (instead of clicking on Cancel). The convention is to name these files with an extension .TSP, such as KLEINLSQ.TSP. TSP output (regression results, etc.) is stored in a text file with the same name but with the extension .OUT, such as KLEINLSQ.OUT. TSP puts a message on the screen regarding the input file name. It also mentions that Command-. (Apple key plus period key) can be used to halt the program. At this point, if you are running Multifinder or System 7, you can put the TSP job into the background and do other things with your Mac. When TSP is finished, open the output file from your text editor to examine the results; you will probably want to use a non-proportional font such as Monaco so that the text is aligned properly for printing/viewing. The output file has the same creator as the input file, so you can just double-click on it to invoke your editor. You will probably prefer to task-switch to examine the output file and revise the input file; then you can rerun TSP on the same file without having to reload it into memory.

E.3. File formats and Names

Program and data files are normally plain text files with at most 80 characters per line. You can read free format data files of any width (i.e. much larger than 80). TSP will tolerate line feed and tab characters in files (they get translated into spaces), but you can remove them from ported DOS files by selecting the Text format in the MS-DOS-to-Mac menu of the Apple File Exchange.

For filenames, the same rules apply as on the VAX; the maximum length is 128 characters. Any valid pathname is acceptable; the Macintosh uses : (colon) to separate devices and folders in a pathname (for example, HD:TSP:FOO.DAT is a valid pathname). Therefore, you may easily keep your input, output and data files in separate folders if you wish.

All files require a name (no names are automatically generated, except those displayed in square brackets in prompts). This means that the UNIT= option on READ, WRITE, or LOAD must not be used without the FILE= option unless the unit has previously been opened with a specific name attached. As always, if FILE= is used alone, TSP will generate a unit number for you.

E.4. Graphics in Mac TSP: PLOT, GRAPH

On the Mac, all printers are supported. The plot remains on the screen until you press a key or the mouse. You can press p, P or %P at this point to make a hard copy before the plot window is closed. Unless dash is being used, the WIDTH option is set by default when printing distinguish multiple lines on the hardcopy from color systems. The PLOT window size is determined from the TSP output window size, so if you click on its maximize button, you will get a larger graphics window. The hardcopy size is determined from the printer page dimensions (you can select portrait or landscape in the dialog box).

For general information on graphics in TSP, see GRAPH and PLOT in Chapter 6 and the *TSP Reference Manual.*